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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,543	12/19/2003	Jeffrey Allan Pfaendtner	125470	1542
30952	7590	05/05/2005	EXAMINER	
HARTMAN AND HARTMAN, P.C. 552 EAST 700 NORTH VAIPARAISO, IN 46383			KOEHLER, ROBERT R	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/707,543	Applicant(s) PFAENDTNER ET AL.	
	Examiner Robert R. Koehler	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-13 and 15-19 is/are rejected.
- 7) ☒ Claim(s) 5 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

RRK.
5-1-05

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12192003; 03212005</u> . | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 1775

DETAILED ACTION

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

1. This patent application contains an electronically-filed Declaration with Electronic Filing System (EFS) character coded signatures. The six EFS signatures in the Declaration are non-compliant because each electronic signature is not inserted between forward slashes. The Examiner is treating the Declaration as being improperly signed or unsigned due to the lack of slashes. See MPEP 714.01(a) and 37 CFR § 1.4(d)2(i).
2. The EFS signature for Inventor 6 (William Scott Walston) is missing. The name "Irene (NMN) Spitsberg" does not belong in the signature block for Inventor 6.

Claim Objections

Claims 10 and 19 are objected to because of the following informalities: Claims 10 and 19 recite "up to 0.05% hafnium," but paragraph [0020] (at page 13 of the specification) states that the nickel-base superalloy contains "up to about 0.15% hafnium." The Examiner respectfully requests that either the specification or claims 10 and 19 be amended in order provide consistent weight percent ranges for the element hafnium. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Evaluations of the level of ordinary skill in the art requires consideration of such factors as various prior art approaches, types of problems encountered in the art, rapidity with which innovations are made, sophistication of technology involved, educational background of those actively working in the field, commercial success, and failure of others.

Art Unit: 1775

The "person having ordinary skill" in this art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The evidence of record including the references and/or admissions are considered to reasonably reflect this level of skill.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 to 4, 6 to 13, and 15 to 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,482,789 (O'Hara, et al.) in view of U.S. Patent No. 6,652,987 B2 (Allen, et al.).

O'Hara, et al. teaches nickel-base superalloy compositions having the same alloying elements as claimed by the applicants (including small amounts of ruthenium) with alloy elemental ranges which overlap applicants' claimed alloy elemental range limits. See line 50 in column 2 to line 28 in column 4. O'Hara, et al. also teaches that the nickel-base superalloy compositions can be coated with a platinum-aluminum coating for the purpose of providing environmental protection to the nickel-base superalloy substrate during high temperature exposures. O'Hara, et al. states that the presence of ruthenium in the nickel-base superalloys contributes much less to SRZ formation beneath a Pt-Al coating compared to other elements such as aluminum and rhenium. The Examiner believes that elemental ruthenium diffuses into a platinum-aluminum coating during high-temperature service, and the presence of very small amounts of ruthenium should be sufficient to lower the extent of SRZ formation in comparison

Art Unit: 1775

to the contribution of other alloying elements to SRZ formation. See line 1 in column 17 to line 8 in column 19. O'Hara, et al. does not specify the type of thermal barrier coatings which can be used for nickel-base superalloys.

However, Allen, et al. teaches a variety of thermal barrier coating systems for nickel-base superalloy substrates such as platinum-aluminide, diffusion aluminide, or a MCrAlY-type coating. The coating systems taught by Allen, et al. also include a ceramic coating such as yttria-stabilized zirconia over the bond coat. See line 50 in column 2 to line 20 in column 3.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have placed one of the thermal barrier coating systems as taught by Allen, et al. on the nickel-base superalloy substrates having the alloy compositions as taught by O'Hara, et al. because the thermal barrier coating systems also provide environmental protection to a nickel-base superalloy substrate. A person skilled in the art of nickel-base superalloys and thermal barrier coating systems would have been motivated to rely on the teachings of Allen, et al. because the prior art (for example, the O'Hara, et al. patent) teaches the advantages of using a suitable single coating or a coating system to provide environmental protection for nickel-base superalloy substrates.

Allowable Subject Matter

Claims 5 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

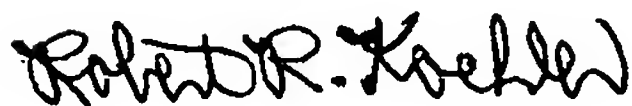
Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Robert Koehler whose telephone number is (571) 272-1536. The Examiner can normally be reached on Tuesday to Friday from 9:30 AM to 7:00 PM. The Examiner can also be reached on alternate Mondays.

Art Unit: 1775

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Deborah Jones, can be reached on **(571) 272-1535**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).



ROBERT R. KOEHLER
PRIMARY EXAMINER

Art Unit 1775
May 1, 2005